FILE 'HOME' ENTERED AT 16:29:17 ON 20 JAN 2004

=> file agricola biosis caplus caba

=> s hordothionin
L1 86 HORDOTHIONIN

=> duplicate remove l1
L2 49 DUPLICATE REMOVE L1 (37 DUPLICATES REMOVED)

=> d ti 1-49

L2 ANSWER 1 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
TI Sequences of soybean seed specific 7S.alpha. promoters and use for expressing genes in plants

L2 ANSWER 2 OF 49 CABA COPYRIGHT 2004 CABI on STN
TI Expression of an altered antimicrobial **hordothionin** gene in barley and oat.

L2 ANSWER 3 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Expression of a seed-specific antifungal protein **hordothionin** gene is inhibited in the leaves of transgenic barley and oat at the pre- and post-translational levels.

L2 ANSWER 4 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Enhanced resistance to Venturia inaequalis in transgenic apple by a gene coding for **hordothionin**.

L2 ANSWER 5 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Constitutive expression of an endogenous antifungal protein alpha-**hordothionin** in transgenic barley.

L2 ANSWER 6 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
TI Binding of barley and wheat .alpha.-thionins to polysaccharides

L2 ANSWER 7 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI NMR structural determination of viscotoxin A3 from Viscum album L.

L2 ANSWER 8 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
TI Transformation of barley with antifungal protein genes

L2 ANSWER 9 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI High lysine derivatives of alpha-**hordothionin**.

L2 ANSWER 10 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI High methionine derivatives of alpha-**hordothionin**.

L2 ANSWER 11 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI High threonine derivatives of alpha-**hordothionin**.

L2 ANSWER 12 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
TI Increasing endosperm content of essential amino acids using genes for proteins rich in these amino acids

L2 ANSWER 13 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI High methionine derivatives of alpha-**hordothionin** for pathogen-control.

L2 ANSWER 14 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Amino acid sequence, S-S bridge arrangement and distribution in plant tissues of thionins from Viscum album.

L2 ANSWER 15 OF 49 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 3
TI Purification and characterization of a new class of insect alpha-amylase inhibitors from barley.

L2 ANSWER 16 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
TI High-methionine derivatives of .alpha.-**hordothionin** and the transformation of improved plant crops

L2 ANSWER 17 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
TI High-threonine derivatives of .alpha.-**hordothionin** and the transformation of improved plant crops

L2 ANSWER 18 OF 49 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 4
TI Fungal membrane responses induced by plant defensins and thionins.

L2 ANSWER 19 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

TI Determination of the three-dimensional structure of **hordothionin** -alpha by nuclear magnetic resonance.

L2 ANSWER 20 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Gibberellin-repressible gene expression in the barley aleurone layer.

L2 ANSWER 21 OF 49 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 6
TI Toxicity of peptides to bacteria present in the vase water of cut roses.

L2 ANSWER 22 OF 49 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 7
TI Primary structure of omega-**hordothionin**, a member of a novel family of thionins from barley endosperm, and its inhibition of protein synthesis in eukaryotic and prokaryotic cell-free systems.

L2 ANSWER 23 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI 1H-NMR studies on the structure of a new thionin from barley endosperm.

L2 ANSWER 24 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
TI High lysine derivatives of .alpha.-**hordothionin** retaining anti-fungal properties

L2 ANSWER 25 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Structure-function validation of high lysine analogs of alpha-**hordothionin** designed by protein modeling.

L2 ANSWER 26 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
TI Hordothionins inhibit protein synthesis at the level of initiation in the wheat-germ system

L2 ANSWER 27 OF 49 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 10
TI Expression of biologically active hordothionins in tobacco. Effects of pre- and pro-sequences at the amino and carboxyl termini of the **hordothionin** precursor on mature protein expression and sorting.

L2 ANSWER 28 OF 49 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 11
TI Solution structure of gamma 1-H and gamma 1-P thionins from barley and wheat endosperm determinded by 1H-NMR: a structural motif common to toxic arthropod proteins.

L2 ANSWER 29 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
TI Analysis of the toxicity of purothionins and hordothionins for plant pathogenic bacteria

L2 ANSWER 30 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Validation of the structure-function properties of alpha-**hordothionin** and derivatives through protein modeling.

L2 ANSWER 31 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
TI Sequence-tagged-site-facilitated PCR for barley genome mapping

L2 ANSWER 32 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI CLONING OF A BARLEY GENE ALPHA **HORDOTHIONIN** AND EXPRESSION IN TRANSGENIC TOBACCO.

L2 ANSWER 33 OF 49 CABA COPYRIGHT 2004 CABI on STN
TI Plant biotechnology.

L2 ANSWER 34 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI PLANT BIOTECHNOLOGY SYNTHETIC **HORDOTHIONIN** GENES AS TOOLS FOR BACTERIAL DISEASE RESISTANCE BREEDING.

L2 ANSWER 35 OF 49 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 12
TI A proteinase from germinated barley. II. Hydrolytic specificity of a 30 kilodalton cysteine proteinase from green malt.

L2 ANSWER 36 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI PRIMARY STRUCTURE AND INHIBITION OF PROTEIN SYNTHESIS IN EUKARYOTIC CELL-FREE SYSTEM OF A NOVEL THIONIN GAMMA **HORDOTHIONIN** FROM BARLEY ENDOSPERM.

L2 ANSWER 37 OF 49 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN
TI Synthetic **hordothionin** genes as tools for bacterial disease resistance breeding.

L2 ANSWER 38 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI NUCLEOTIDE SEQUENCE AND ENDOSPERM-SPECIFIC EXPRESSION OF THE STRUCTURAL GENE FOR THE TOXIN ALPHA **HORDOTHIONIN** IN BARLEY HORDEUM-VULGARE

L2 ANSWER 39 OF 49 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 15
TI Isolation and characterization of cDNAs coding for leaf-specific thionins closely related to the endosperm-specific **hordothionin** of barley (Hordeum vulgare L.).

L2 ANSWER 40 OF 49 CABA COPYRIGHT 2004 CABI on STN
TI Molecular genetics of barley endosperm proteins.

L2 ANSWER 41 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
TI CM-proteins and thionins in cereals: characterization and cloning of cDNA

L2 ANSWER 42 OF 49 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 16
TI Cloning and nucleotide sequence of a cDNA encoding the precursor of the barley toxin alpha-**hordothionin**.

L2 ANSWER 43 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI POLYADENYLATION SITE HETEROGENEITY IN MESSENGER RNA ENCODING THE PRECURSOR OF THE BARLEY TOXIN BETA **HORDOTHIONIN**.

L2 ANSWER 44 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
TI Persistence of **hordothionin** in germinating barley and malt

L2 ANSWER 45 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
TI Proton NMR studies of barley and wheat thionins: structural homology with crambin

L2 ANSWER 46 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
TI Comparative analysis of the primary structure of grain thionins

L2 ANSWER 47 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI THIONINS PLANT PEPTIDES THAT MODIFY MEMBRANE PERMEABILITY IN CULTURED MAMMALIAN CELLS.

L2 ANSWER 48 OF 49 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 18
TI External association of **hordothionin** with protein bodies in mature barley.

L2 ANSWER 49 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
TI Purothionin analogs from barley flour

=> d bib abs 37 30 24 19 12 9 2 3 5

L2 ANSWER 37 OF 49 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN
AN 91:53193 AGRICOLA
DN IND91028412
TI Synthetic **hordothionin** genes as tools for bacterial disease resistance breeding.
AU Florack, D.E.A.; Visser, L.; Vloten-Doting, L.; Heidekamp, F.; Stiekema, W.J.
CS Centre for Plant Breeding Research CPO, Wageningen
AV DNAL (S494.5.B563A47)
SO [Agricultural biotechnology in focus in the Netherlands / J.J. Dekkers, H.C. van der Plas & D.H. Vuijk (eds.)], p. 34-48
Publisher: Wageningen, Netherlands : Pudoc, 1990.
ISBN: 9022010082.
NTE Includes references.
DT Article
FS Non-U.S. Imprint other than FAO
LA English

L2 ANSWER 30 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

AN 1993:287236 BIOSIS
DN PREV199345005361
TI Validation of the structure-function properties of alpha-**hordothionin** and derivatives through protein modeling.
AU Rao, A. Gururaj [Reprint author]; Hassan, M. [Reprint author]; Hempel, J.
CS Dep. Biotechnol. Res., Pioneer Hi-Bred Int., 7250 NW 62nd Ave., Johnston, IA 50322, USA
SO Protein Engineering, (1993) Vol. 6, No. SUPPL., pp. 117.
Meeting Info.: Winter Symposium on Advances in Gene Technology: Protein Engineering and Beyond. Miami, Florida, USA. 1993.
CODEN: PRENE9. ISSN: 0269-2139.
DT Conference; (Meeting)
LA English
ED Entered STN: 17 Jun 1993
Last Updated on STN: 18 Jun 1993

L2 ANSWER 24 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:697398 CAPLUS
DN 121:297398
TI High lysine derivatives of .alpha.-**hordothionin** retaining anti-fungal properties
IN Rao, A. Gururaj; Beach, Larry R.
PA Pioneer Hi-Bred International, Inc., USA
SO PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9416078	A2	19940721	WO 1994-US382	19940112
	WO 9416078	A3	19940901		
	W: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, UZ, VN				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2161881	AA	19940721	CA 1994-2161881	19940112
	CA 2161881	C	20010327		
	AU 9461622	A1	19940815	AU 1994-61622	19940112
	EP 745126	A1	19961204	EP 1994-908585	19940112
	EP 745126	B1	20010912		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	AT 205533	E	20010915	AT 1994-908585	19940112
	US 5990389	A	19991123	US 1997-838763	19970410
PRAI	US 1993-3885	A	19930113		
	WO 1994-US382	W	19940112		
	US 1995-369975	B1	19950106		
	US 1995-575654	B1	19951220		

OS MARPAT 121:297398
AB Derivs. of .alpha.-horothionin with position-specific substitutions of amino acids with lysine increases the lysine content of the protein while retaining the antifungal activity of the parent compd. The protein may be used for improving fungal pathogen resistance in plants and in the treatment of fungal infections of animals (no data). Modeling of the structure of the protein and sequence comparison was used to identify residues essential for protein structure and a series of analogs with substitution of lysines at non-essential sites were prepd. by Fastmoc.RTM. chem. and tested for antifungal activity. The proteins were active against Aspergillus flavus, Sclerotinia sclerotiorum, Fusarium graminareum, and F. moniliforme in in vitro tests.

L2 ANSWER 19 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 5
AN 1996:113949 BIOSIS
DN PREV199698686084
TI Determination of the three-dimensional structure of **hordothionin** -alpha by nuclear magnetic resonance.
AU Han, Kyou-Hoon [Reprint author]; Park, Kyu-Hwan; Yoo, Hyun-Ju; Cha, Hoon; Suh, Se Won; Thomas, Fairwell; Moon, Tae-Sung; Kim, Seung-Moak
CS Korea Res. Inst. Biosci. Biotechnol., KIST, Yusong P.O. Box 115, Taejon 305-600, South Korea
SO Biochemical Journal, (1996) Vol. 313, No. 3, pp. 885-892.
ISSN: 0264-6021.
DT Article
LA English
ED Entered STN: 12 Mar 1996
Last Updated on STN: 12 Mar 1996
AB The high-resolution three-dimensional solution structure of the plant toxin **hordothionin**-alpha obtained from Korean barley was determined by using two-dimensional NMR techniques combined with distance geometry and restrained molecular dynamics. Experimentally derived restraints including 292 interproton distances from nuclear Overhauser effect measurements, 16 hydrogen bond restraints together with four disulphide bridge restraints were used as input to calculations of

distance geometry and restrained molecular dynamics. Also included in the calculations were 36 vphi and 17 chi-1 torsion angles obtained from 3J-HNalpha and 3J-alpha-beta coupling constants in double quantum filtered COSY and primitive exclusive COSY experiments, respectively. The overall protein fold is similar to crambin and purothionin-alpha-1. Two alpha-helices running in opposite directions are found on the basis of 3J-HNalpha and 3J-alpha-beta and deuterium exchange rates for backbone NH protons, and encompass residues 7-18 and 22-28. These two helices are connected by a turn and form a 'helix-turn-helix' motif. A short stretch of an anti-parallel beta-sheet exists between residues 1-4 and 31-34. The two protein termini of **hordothionin**-alpha are 'well-anchored': the N-terminus of the protein is immobilized by this short beta-sheet whereas the C-terminus is 'pasted' to the carbonyl group of Cys-4 by a very stable hydrogen bond. The average root-mean-square differences for the backbone and heavy atoms after the restrained molecular dynamics calculations are 0.62 and 1.16 ANG respectively. These numbers represent a significant improvement over the corresponding values for the previous NMR structures of other thionins. The distance violation from the experimental interproton distances for the final structures is 0.14 ANG for all atoms.

L2 ANSWER 12 OF 49 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:511266 CAPLUS
DN 131:142181
TI Increasing endosperm content of essential amino acids using genes for proteins rich in these amino acids
IN Jung, Rudolf; Beach, Larry R.; Dress, Virginia M.; Rao, A. Gururaj; Ranch, Jerome P.; Ertl, David S.; Higgins, Regina K.
PA Pioneer Hi-Bred International, Inc., USA
SO PCT Int. Appl., 49 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9940209	A1	19990812	WO 1999-US2061	19990127
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2320957	AA	19990812	CA 1999-2320957	19990127
	AU 9924876	A1	19990823	AU 1999-24876	19990127
	EP 1053338	A1	20001122	EP 1999-904488	19990127
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	BR 9907752	A	20020129	BR 1999-7752	19990127
	ZA 9900913	A	19991124	ZA 1999-913	19990205
PRAI	US 1998-20716	A	19980209		
	WO 1999-US2061	W	19990127		

AB The essential amino acid content of seed endosperm is modified by the expression of genes for storage proteins with an altered amino acid compn. Amino acid substitutions in the protein are selected to minimize or avoid disruption of the folding of the protein. In particular, analogs of .alpha.-**hordothionin** with the residues arginine-10 and lysine-45 essential for protein folding retained are described. A gene for an .alpha.-**hordothionin** contg. 12 lysine residues was constructed by std. PCR methods and placed under control of the .gamma.-zein promoter.
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 9 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2000:289477 BIOSIS
DN PREV200000289477
TI High lysine derivatives of alpha-**hordothionin**.
AU Rao, A. Gururaj [Inventor, Reprint author]; Beach, Larry [Inventor]
CS Des Moines, IA, USA
ASSIGNEE: Pioneer Hi-Bred International, Inc., Cumming, IA, USA
PI US 5990389 November 23, 1999
SO Official Gazette of the United States Patent and Trademark Office Patents, (Nov. 23, 1999) Vol. 1228, No. 4. e-file.
CODEN: OGUPE7. ISSN: 0098-1133.
DT Patent
LA English
ED Entered STN: 6 Jul 2000
Last Updated on STN: 7 Jan 2002
AB Derivatives of alpha-**hordothionin** made by position-specific substitution with lysine residues provide lysine enrichment while retaining the antifungal activity of the parent compound.

L2 ANSWER 2 OF 49 CABA COPYRIGHT 2004 CABI on STN

AN 2003:91135 CABA
DN 20033061938
TI Expression of an altered antimicrobial **hordothionin** gene in barley and oat
AU Fu, J. M.; Skadsen, R. W.; Kaeppler, H. F.; Vasil, I. K. [EDITOR]
CS Department of Agronomy, University of Wisconsin, Madison, WI 53706, USA. jianmingfu@facstaff.wisc.edu
SO Plant biotechnology 2002 and beyond. Proceedings of the 10th IAPTC&B Congress, Orlando, Florida, USA, 23-28 June, 2002, (2003) pp. 159-160. 3 ref.
Publisher: Kluwer Academic Publishers. Dordrecht
Price: Book chapter; Conference paper .
Meeting Info.: Plant biotechnology 2002 and beyond. Proceedings of the 10th IAPTC&B Congress, Orlando, Florida, USA, 23-28 June, 2002.
ISBN: 1-4020-1126-1
CY Netherlands Antilles
DT Journal
LA English
ED Entered STN: 20030606
Last Updated on STN: 20030606
AB An alpha-**hordothionin** (HTH) cDNA of nearly full-length was cloned from a cDNA library constructed from barley cv. Morex developing endosperm. A truncated cDNA version (Hth2) was developed by deleting 3[prime] and 5[prime]UTRs and the 18 nts encoding the 6 amino acids between the first methionine and the second methionine in the coding sequence. The Hth2 was cloned in pAHC25, replacing gus, and the resulting plasmid Hth2/pAHC was used for the transformation of immature embryos of barley cv. Golden Promise and calluses derived from apical meristems of an elite oat cultivar, Belle. Approximately 170 barley plants were grown in a greenhouse. Integration of the Hth2 into the barley genomes was confirmed by PCR analyses. The transgenic barley plants were derived from at least 6 independent events as demonstrated by Southern blot analysis, including 1 bar-only line which probably resulted from plasmid fragmentation. Northern blot analysis showed that all lines had mRNAs transcribed from the transgene Hth2 except the bar-only line. Seventy oat plants were grown in the greenhouse. Stable transformation was confirmed by PCR analysis. Southern blot analysis showed that the plants were derived from at least 15 independent events, including 3 bar-only lines. Similar to barley, HTH mRNA was detected in transgenic oat.

L2 ANSWER 3 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2002:587733 BIOSIS
DN PREV200200587733
TI Expression of a seed-specific antifungal protein **hordothionin** gene is inhibited in the leaves of transgenic barley and oat at the pre- and post-translational levels.
AU Fu, Jianming [Reprint author]; Abebe, Tilahun; Federico, Maria; Kaeppler, Heidi; Skadsen, Ron [Reprint author]
CS Cereal Crops Research Unit, USDA/ARS, Fargo, ND, USA
jianmingfu@facstaff.wisc.edu
SO Plant Biology (Rockville), (2002) Vol. 2002, pp. 61-62. print.
Meeting Info.: Annual Meeting of the American Society of Plant Biologists on Plant Biology. Denver, CO, USA. August 03-07, 2002. American Society of Plant Biologists.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 13 Nov 2002
Last Updated on STN: 13 Nov 2002

L2 ANSWER 5 OF 49 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2001:384780 BIOSIS
DN PREV200100384780
TI Constitutive expression of an endogenous antifungal protein alpha-**hordothionin** in transgenic barley.
AU Fu, Jianming [Reprint author]; Sathish, Puthigae [Reprint author]; Federico, Maria L. [Reprint author]; Kaeppler, Heidi F. [Reprint author]; Skadsen, Ron
CS Agronomy Dept. of Wisconsin-Madison, Madison, WI, 53706, USA
jianmingfu@facstaff.wisc.edu
SO In Vitro Cellular and Developmental Biology Animal, (March, 2001) Vol. 37, No. 3 Part 2, pp. 25.A. print.
Meeting Info.: Congress on In Vitro Biology. St. Louis, Missouri, USA. June 16-20, 2001. Society for In Vitro Biology.
ISSN: 1071-2690.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 15 Aug 2001
Last Updated on STN: 19 Feb 2002

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CSTN INTERNATIONAL SESSION SUSPENDED AT 16:34:02 ON 20 JAN 2004

	U	1	Document ID	~~Issue Date~~	Title	Inventor	S	C
1	☒	☐	US 6677503 B1	20040113	Sunflower anti-pathogene proteins and genes and their uses	Bidney, Dennis L. et	☐	☐
2	☒	☐	US 6670467 B2	20031230	Maize promoters	Barbour, Eric et al.	☐	☐
3	☒	☐	US 6667427 B1	20031223	Sclerotinia-inducible promoters and their uses	Bao, Zhangmeng et al.	☐	☐
4	☒	☐	US 20030232764 A1	20031218	Use of macrolides in pest control	Hofer, Dieter et al.	☐	☐
5	☒	☐	US 20030229918 A1	20031211	Seed specific USP promoters for expressing genes in plants	Wang, Qi et al.	☐	☐
6	☒	☐	US 20030200557 A1	20031023	MAIZE PROMOTERS	Barbour, Eric et al.	☐	☐
7	☒	☐	US 6617498 B1	20030909	Inducible promoters	Bruce, Wesley B. et al.	☐	☐
8	☒	☐	US 20030167526 A1	20030904	Compositions and methods for identifying transformed cells	Lowe, Keith S. et al.	☐	☐
9	☒	☐	US 20030166855 A1	20030904	Lipoxygenase polynucleotides and methods of use	Navarro Acevedo, Pedro A. et al.	☐	☐
10	☒	☐	US 20030153591 A1	20030814	Use of insecticides in pest control	Lee, Bruce	☐	☐
11	☒	☐	US 20030150024 A1	20030807	Plant MSH2 sequences and methods of use	Kipp, Peter B. et al.	☐	☐
12	☒	☐	US 20030148965 A1	20030807	Use of macrolides in pest control	Hofer, Dieter et al.	☐	☐
13	☒	☐	US 20030140381 A1	20030724	Genes and regulatory DNA sequences associated with stress-related gene expression in plants and methods of using the same	Bate, Nicholas J. et al.	☐	☐
14	☒	☐	US 20030135889 A1	20030717	Methods for enhancing plant transformation frequencies	Ross, Margit C. et al.	☐	☐
15	☒	☐	US 20030106088 A1	20030605	Vascular tissue preferred promoters	Abbitt, Shane E. et al.	☐	☐
16	☒	☐	US 20030097690 A1	20030522	Maize promoters	Barbour, Eric et al.	☐	☐
17	☒	☐	US 20030097689 A1	20030522	Seed-preferred promoters from end genes	Linnestad, Casper et al.	☐	☐
18	☒	☐	US 20030096985 A1	20030522	Small and cysteine rich antifungal defensin and thionin-like protein genes highly expressed in the incompatible interaction	Oh, Boung-Jun et al.	☐	☐
19	☒	☐	US 20030093828 A1	20030515	Seed specific 7Salpha promoter for expressing genes in plants	Wang, Qi et al.	☐	☐
20	☒	☐	US 20030050326 A1	20030313	Use of neonicotinoids in pest control	Lee, Bruce et al.	☐	☐

	U	1	Document ID	~~Issue Date~~	Title	Inventor	S	C
21	☒	☐	US 20030046724 A1	20030306	Methods of transforming plants and identifying parental origin of a chromosome in those plants	Ranch, Jerome P. et al.	☐	☐
22	☒	☐	US 6528704 B1	20030304	Seed-preferred promoters from end genes	Linnestad, Casper et al.	☐	☐
23	☒	☐	US 20030033632 A1	20030213	Maize proteinase inhibitor-like polynucleotides and methods of use	Crane, Virginia C. et al.	☐	☐
24	☒	☐	US 6512165 B1	20030128	Methods for enhancing plant transformation frequencies	Ross, Margit C. et al.	☐	☐
25	☒	☐	US 6504084 B1	20030107	Maize NPR1 polynucleotides and methods of use	Crane, III, Edmund H. et al.	☐	☐
26	☒	☐	US 6504083 B1	20030107	Maize Gos-2 promoters	Barbour, Eric et al.	☐	☐
27	☒	☐	US 20020188965 A1	20021212	Methods of transforming plants	Zhao, Zou-Yu et al.	☐	☐
28	☒	☐	US 6486157 B1	20021126	Use of insecticides in pest control	Lee, Bruce	☐	☐
29	☒	☐	US 20020170094 A1	20021114	Maize NPR1 polynucleotides and methods of use	Crane, Edmund H. III et al.	☐	☐
30	☒	☐	US 20020152500 A1	20021017	Tissue-preferred promoter from maize	Niu, Xiaomu et al.	☐	☐
31	☒	☐	US 20020148007 A1	20021010	Seed-preferred promoter from barley	Jiao, Shuping et al.	☐	☐
32	☒	☐	US 20020138879 A1	20020926	Agrobacterium mediated transformed sorghum	Cai, Tishu et al.	☐	☐
33	☒	☐	US 20020132350 A1	20020919	Targeted genetic manipulation using Mu bacteriophage cleaved donor complex	Suzuki, Hideki et al.	☐	☐
34	☒	☐	US 20020120961 A1	20020829	Methods for transforming immature maize embryos	Ranch, Jerome P. et al.	☐	☐
35	☒	☐	US 20020108149 A1	20020808	Methods of increasing polypeptide accumulation in plants	Gruis, Darren B. et al.	☐	☐
36	☒	☐	US 20020108144 A1	20020808	Anti-microbial protein	Manners, John Michael et al.	☐	☐
37	☒	☐	US 6429362 B1	20020806	Maize PR-1 gene promoters	Crane, Virginia C.	☐	☐
38	☒	☐	US 20020094575 A1	20020718	Compositions and methods for stable transformation using Mu bacteriophage cleaved donor complex	Suzuki, Hideki	☐	☐
39	☒	☐	US 20020088021 A1	20020704	Rice MLH1 ortholog and uses thereof	Mahajan, Pramod B.	☐	☐
40	☒	☐	US 20020083493 A1	20020627	Major latex protein gene and promoter and their uses	Acevedo, Pedro A. Navarro et al.	☐	☐
41	☒	☐	US 6407315 B1	20020618	Seed-preferred promoter from barley	Jiao, Shuping et al.	☐	☐

	U	1	Document ID	~~Issue Date~~	Title	Inventor	S	C
42	☒	☐	US 6403862 B1	20020611	Seed-preferred promoter from maize	Jiao, Shuping et al.	☐	☐
43	☒	☐	US 20020069426 A1	20020606	Methyl-D-erythritol phosphate pathway genes	Boronat, Albert et al.	☐	☐
44	☒	☐	US 6388066 B1	20020514	MAR/SAR elements flanking RSYN7-driven construct	Bruce, Wesley B. et al.	☐	☐
45	☒	☐	US 6369298 B1	20020409	Agrobacterium mediated transformation of sorghum	Cai, Tishu et al.	☐	☐
46	☒	☐	US 20020023278 A1	20020221	Genetic transformation in plants using site-specific recombination and wide hybridization	Lyznik, Leszek Alexander et	☐	☐
47	☒	☐	US 20010047092 A1	20011129	Novel plant promoters and methods of use	Bruce, Wesley B. et al.	☐	☐
48	☐	☐	US 6300489 B1	20011009	Small and cysteine rich antifungal defensin and thionine-like protein genes highly expressed in the incompatible interaction	Oh, Boung-Jun et	☒	☐
49	☒	☐	US 6297056 B1	20011002	Brassica transformation via microprojectile bombardment	Tulsieram, Lomas et al.	☐	☐
50	☒	☐	US 20010025380 A1	20010927	Family of maize PR-1 genes and promoters	Crane, Virginia C.	☐	☐
51	☒	☐	US 6291666 B1	20010918	Spike tissue-specific promoter	Puthigae, Sathish et al.	☐	☐
52	☒	☐	US 6271437 B1	20010807	Soybean gene promoters	Jessen, Holly J. et al.	☐	☐
53	☒	☐	US 6271368 B1	20010807	Recombinant mistletoe lectin (rML)	Lentzen, Hans et al.	☐	☐
54	☒	☐	US 6265638 B1	20010724	Method of plant transformation	Bidney, Dennis L. et	☐	☐
55	☒	☐	US 6225529 B1	20010501	Seed-preferred promoters	Lappegard, Kathryn K. et al.	☐	☐
56	☒	☐	US 6177613 B1	20010123	Seed-preferred promoter	Coughlan, Sean J. et al.	☐	☐
57	☒	☐	US 6177611 B1	20010123	Maize promoters	Rice, Douglas A.	☐	☐
58	☒	☐	US 6127600 A	20001003	Methods of increasing accumulation of essential amino acids in seeds	Beach, Larry et al.	☐	☐
59	☒	☐	US 6080913 A	20000627	Binary methods of increasing accumulation of essential amino acids in seeds	Tarczynski, Mitchell C. et al.	☐	☐
60	☒	☐	US 6015891 A	20000118	Synthetic insecticidal crystal protein gene having a modified frequency of codon usage	Adang, Michael J. et al.	☐	☐
61	☒	☐	US 6013523 A	20000111	Transgenic plants comprising a synthetic insecticidal crystal protein gene having a modified frequency of codon usage	Adang, Michael J. et al.	☐	☐
62	☒	☐	US 5994521 A	19991130	Full length transcript (FLt) promoter from figwort mosaic caulimovirus (FMV) and use to express chimeric genes in plant cells	Maiti, Indu B. et al.	☐	☐
63	☒	☐	US 5990389 A	19991123	High lysine derivatives of .alpha.-hordothionin	Rao, A. Gururaj et al.	☐	☐
64	☒	☐	US 5936140 A	19990810	Methods of producing feed by reducing endogenous protein levels in soybean	Beach, Larry Ray	☐	☐
65	☒	☐	US 5885802 A	19990323	High methionine derivatives of .alpha.-hordothionin	Rao, Aragula Gururaj	☐	☐

	U	1	Document ID	~~Issue Date~~	Title	Inventor	S	C
66	☐	☐	US 5885801 A	19990323	High threonine derivatives of .alpha.-hordothionin	Rao, Aragula Gururaj	☒	☐
67	☒	☐	US 5850024 A	19981215	Reduction of endogenous seed protein levels in plants	Beach, Larry et al.	☐	☐
68	☒	☐	US 5850019 A	19981215	Promoter (FLt) for the full-length transcript of peanut chlorotic streak caulimovirus (PCLSV) and expression of chimeric genes in plants	Maiti, Indu B. et al.	☐	☐
69	☒	☐	US 5885802 A	19980902	New modified alpha-hordothionin having methionine amino acid substns. - to increase the methionine content of e.g. animal feed	RAO, G A et al.	☐	☐
70	☒	☐	US 5885801 A	19980902	New modified alpha-hordothionin having threonine amino acid substns. - to increase the threonine content of e.g. animal feed	RAO, G A et al.	☐	☐
71	☒	☐	US 5717061 A	19980210	Synthetic antimicobial peptides	Rao, A. Gururaj et al.	☐	☐
72	☒	☐	US 5703049 A	19971230	High methionine derivatives of .alpha.-hordothionin for pathogen-control	Rao, Aragula Gururaj	☐	☐
73	☐	☐	US 5703049 A	19971230	Killing and inhibiting phytopathogenic microorganisms - by expressing methionine rich alpha-hordothionin, useful in, e.g. improving plant feed formulations	RAO, A G	☒	☐
74	☒	☐	US 5607914 A	19970304	Synthetic antimicrobial peptides	Rao, A. Gururaj et al.	☐	☐
75	☒	☐	WO 9638563 A1	19961205	HIGH METHIONINE DERIVATIVES OF alpha -HORDOTHIONIN	RAO, GURURAJ A	☐	☐
76	☒	☐	WO 9638562 A1	19961205	HIGH THREONINE DERIVATIVES OF alpha -HORDOTHIONIN	RAO, ARAGULA GURURAJ	☐	☐
77	☒	☐	US 5580852 A	19961203	Derivatives of tachyplesin having inhibitory activity towards plant pathogenic fungi	Putnam, Rebecca J. et al.	☐	☐
78	☒	☐	US 5567600 A	19961022	Synthetic insecticidal crystal protein gene	Adang, Michael J. et al.	☐	☐
79	☒	☐	US 5488035 A	19960130	Peptide with inhibitory activity towards plant pathogenic fungi	Rao, Aragula G.	☐	☐
80	☒	☐	US 5464944 A	19951107	Synthetic antifungal peptides	Rao, A. Gururaj et al.	☐	☐
81	☒	☐	US 5380831 A	19950110	Synthetic insecticidal crystal protein gene	Adang, Michael J. et al.	☐	☐
82	☒	☐	WO 9416078 A2	19940721	HIGH LYSINE DERIVATIVES OF ALPHA-HORDOTHIONIN	RAO, A GURURAJ et al.	☐	☐
83	☒	☐	WO 9416078 A1	19940721	HIGH LYSINE DERIVATIVES OF ALPHA-HORDOTHIONIN	RAO, A GURURAJ et al.	☐	☐
84	☒	☐	EP 745126 B	19940721	Derivatives of alpha hordothionin - have high lysine content, and retain antifungal activity of parent compound	BEACH, L R et al.	☐	☐
85	☒	☐	EP 502718 A	19920909	Treatment of bacterial and fungal infections - using natural and synthetic proteins e.g. adrenocorticotropic hormone, magainin, poly-L-arginine, mastoparan, kassinin etc.	DUVICK, J et al.	☐	☐

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